

Clean Water Act Compliance Field Review - Grazing Activities – Caribou NF

Allotments: Old Canyon C&H

Forest/District: Caribou-Targhee NF, Westside RD

Date: 8/23/2007

Reviewers: Hans Bastian (District Range), Heidi Heyrend (Acting S.O. Range); John Lott (S.O. Soils); Brad Higginson (S.O. Hydrology); Ken Timothy (District Range and Wildlife), and Greg Mladenka (Idaho DEQ)

Grazing System: Four-Pasture Deferred Rotation

Unit(s) Reviewed:	<u>Maple Springs/Station Canyon (grazed for ~ 2 weeks)</u>	On Date(s):	<u>7/19</u>	Off Date(s)	<u>8/15</u>
	<u>Old Canyon Meadows (grazed early for ~ 1 week)</u>		<u>6/1</u>		<u>6/11</u>
	<u>Heath Meadow (drove through)</u>		<u>6/12</u>		<u>7/18</u>

Sixth Level Watersheds: 160102040206 – Lower Devil Creek
160102040205 – Upper Devil Creek

Streams Examined: Station Canyon
Old Canyon

Geology: Limestone, slate, shales, quartzite, basalt, and tuffs.

Major Soils and Community Types:

- 045 – Ridd-Kearns-Melhorn Families complex, 5-20% slopes. Sagebrush-grass/mountain shrub.
- 409 – Calcixerollic Xerochrepts-Lithic Xerorthents-Ridd Families complex, 45-65% slopes. Juniper, sagebrush, & mountain shrub.
- 652 – Blaine-Swede-Starley Families complex, 25-55% slopes. Mountain shrub, conifer, & juniper.
- Ridd – Loamy-skeletal, mixed Typic Argixerolls; Kearns – Fine-silty, mixed, mesic Calcic Haploxerolls; Melhorn – Fine-loamy, mixed Typic Argixerolls; Blaine – Loamy-skeletal, mixed Argic Cryoborolls; Swede – Fine-loamy, mixed Argic Cryoborolls; and Starley – Loamy-skeletal, mixed Lithic Cryoborolls.

Notes: This allotment used to be part of the larger St. John's Allotment. The St. John's allotment was broken into five smaller allotments during a NEPA analysis in 1995. Currently 291 cow/calf pairs are authorized on the allotment. The on and off dates for the allotment are May 15 and August 15 respectively. The allotment includes four pastures/units:

- Maple Springs/Station Canyon (grazed approximately 2 weeks)
- Heath Meadow
- Old Canyon Meadows (grazed early approximately 1 week)
- Secret Canyon

Field Visit Summary

Station Canyon: The uplands in this area were grazed well within standards (Photo 1).

The group examined the developed watering area in Station Canyon, which includes two constructed ponds and a developed spring feeding a trough (Photo 2 and Photo 3). The stream channel between the two ponds was heavily trampled by livestock during 2007. The group discussed future opportunities in relocating the trough outside of the aquatic influence zone (AIZ) and away from the stream channel and ponds. However, it was discussed that it would be a low priority at the Forest-level due to the intermittent nature of the stream and lower-priority values at risk. As opportunities arise (e.g. trough or pond reconstruction) however, efforts should be made to relocate the trough

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outside of the AIZ to distribute livestock away from the stream channel. The group discussed that concentrating the watering sources in a relatively small area immediately adjacent to the stream makes it extremely difficult to meet AIZ grazing standards (e.g. stubble height and/or bank alteration) and goals (e.g. bank stability and water quality standards)

Photo 1. Uplands within Station Canyon unit.



Photo 2. Trough in Station Canyon.



Photo 3. Lower stock pond in Station Canyon.



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Second Meadow: Second Meadow is a moist meadow environment with sedge-vegetated swales. Two constructed stock ponds are located at the lower end of the meadow and a developed spring and trough are located at the upper area. There is no active stream channel within the meadow, but an intermittent channel is present in the canyon immediately below the meadow.

Again, uplands in the area appear to be grazed well within standards. However, stubble height was measured at 4 inches during the review, which was after the grazing period (Photo 4). Hans Bastian and Brad Higginson visited the meadow in 2006 and found that the area was grazed within standards (Photo 5). Grazing within standards and leaving adequate residual stubble height provides for soil and water resource protection and movement towards desired conditions. The group discussed that grazing to 4 inches in 2006 did not reverse any improvements in the long-term trend of the area, but it may have produced minor and temporary impacts to soil and water resources.

Photo 4. Second Meadow following grazing in 2007; carex stubble height is 4 inches.



Photo 5. Second Meadow following grazing in 2006; carex stubble height is greater than 6 inches.



The group also discussed whether the desired condition for the meadow should include an increase in the abundance of willows. Brad pointed out that there are a few mature willows in the upper meadow (Photos 4 & 5), but regeneration appears to be lacking throughout the meadow. Ken stated that additional willows would dry out the riparian area and lower the water table. Hans pointed out that willows more often occur where there is live water.

John discussed the previous NEPA work done in the 1990's. The Forest had Alma Winward, a Regional FS Ecologist at that time, visit the allotment. John stated that the meadow has improved since that time (see Photo 6 and Photo 7).

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Photo 6. Second Meadow-May 1993; willow in the upper right is that in photo 7.



Photo 7. Second Meadow-August 2007; notice ground cover on upper banks.



Photo 8. Second Meadow in May 1993.



Photo 9. Second Meadow-August 2007; lower meadow.



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Old Canyon Meadow: Old Canyon is an intermittent sedge-vegetated channel. Stubble height was measured during the review at 4 inches, which is below the standard of 6-inches (Old Canyon is rated as functional at risk). This area is similar to Second Meadow in that standards were not achieved in 2007, but were achieved in 2006. This area has more existing willows than Second Meadow and also has greater potential for increasing the willow abundance. Hans Bastian and Brad Higginson established a riparian designated monitoring area (DMA) along Old Canyon Meadows in 2006 (Table 1).

Table 1. Summary of the multiple indicator monitoring (MIM) performed in 2006.

Median Stubble Height	Bank Alteration	Bank Stability	Bank Cover	Saplings Young	Mature	Dead	Hydric	Ecological Status	Wetland Site Rating	Greenline Width
14 in	15%	84%	99%	0%	100%	0%	100%	Potential Natural Community	Good	0.96 m

Table 2. Ground cover summary for Second Meadow and Old Canyon Meadow.

Carex Meadow Site	Year												Average
	1993	1994	1995	1997	1999	2000	2001	2002	2003	2004	2005	2006	
Second Meadow													
% ground cover	80	78.5	77.8	88	86.25	88.6	90.5	92.2	93	75.25	93.4	89.3	82.7%
Vegetation/Moss %	26.5	14	33.8	47	43			76.88	66	25.75	52.6	34	
Litter %	52.3	64	44	40.5	43.25			15.31	27	49.5	40.8	55.4	
Rock %	1.2	0.5	0	0.5	0			0	0	0	0	0	
Bare Soil %	20	21.5	22.2	12	13.75			7.81	7	24.75	6.6	10.6	
Old Canyon Meadow													
% ground cover							90.5	86.6	82	60.2	75	82	79.3%
Vegetation %							35	80.63	58	34	33	36.6	
Litter %							55	5.94	24	26.25	42	45.4	
Rock %							0	0	0	0	0	0	
Bare Soil %							9.5	13.44	19	39.75	25	18	

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Use the Following Rating Guide and Definitions to Score Each Practice

Implemented	Score
Exceeds objective of practice	5
Meets objective of practice	4
Minor departure from practice	3
Major departure from practice	2
Gross neglect of practice	1

Effective	Score
Improved protection of soil and water over pre-project conditions	5
Adequate protection of soil and water	4
Minor and temporary impacts on soil and water	3
Major and temporary, or minor and prolonged impacts on soil and water	2
Major and prolonged impacts on soil and water	1

Term	Definition
Adequate	Small amount of material eroded; material does not reach ephemeral draws, intermittent and perennial streams, or wetlands
Minor	Erosion and delivery of material to ephemeral draws but not intermittent and perennial streams, or wetlands
Major	Erosion and subsequent delivery of sediment to ephemeral draws, intermittent and perennial streams, or wetlands
Temporary	Impacts expected to last one year or less or no more than one runoff season
Prolonged	Impacts expected to last more than one year or one runoff season

Applicable Caribou NF Revised Forest Plan (RFP) Standard and Guidelines

Element	Standards and Guidelines	Implemented	Effective	Notes
Soils – All Ecosystems	Suitability for resource management activities shall be disclosed in the site-specific analysis. (S)	4	4	The 1995 NEPA document pre-dates that RFP. However, soils were analyzed. As a result of that analysis, the St. John's allotment was broken into five smaller allotments to improve conditions.
Soils – All Ecosystems	Resource developments and utilization should be restricted to lands identified in the Soil Resource Inventory as being capable of sustaining such impacts. (G)	4	4	
Soils – All Ecosystems	Maintain ground cover, microbiotic crusts, and fine organic matter that would protect the soil from erosion in excess of soil loss tolerance limits and provide nutrient cycling. (G)	4	4	Majority of the upland areas examined had adequate ground cover. The watering areas in Station Canyon could be improved.
Soils – All Ecosystems	Detrimental soil disturbance such as compaction, erosion, puddling, displacement, and severely burned soils caused by management should be limited or mitigated to meet long-term soil productivity goals. (G)	4	4	Limited to watering areas. The group discussed options to improve conditions near the Station Canyon watering areas.
Watershed and Riparian Resources	Proposed actions analyzed under NEPA should adhere to the State Nonpoint Source Management Plan to best achieve consistency with both Sections 313 and 319 of the Federal Water Pollution Control Act. (G)	4	4	NEPA completed in 1995. Implementation and monitoring of BMPs.
Grazing Management – Range Resources	Livestock grazing shall be restricted following prescribed or natural fire and/or rangeland planting or seeding before seed set of the second growing season, or until objectives of the treatment are met.	N/A	N/A	
Grazing Management – Range Resources	Stock driveways should be eliminated as opportunities occur. (G)	N/A	N/A	

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Applicable Caribou NF Revised Forest Plan (RFP) Standard and Guidelines

Element	Standards and Guidelines	Implemented	Effective	Notes						
Grazing Management – Range Resources	Where water is developed at springs and seeps, return water to point of origin after livestock leave unit, if possible. (G)	3	3	Water was still being diverted to the trough after cattle had left the Station Canyon area. This BMP will be added in the next AOI and/or AMP revision.						
Grazing Management – Range Resources	Seeding or establishment of monocultures should be avoided, and efforts should be made to establish and/or maintain a variety of desirable grass, forbs, and shrub species.	4	4	There are Lomation stands in the allotment.						
Grazing Management – Forage Utilization	Apply upland forage utilization levels to all allotments as shown below, unless determined through development of site-specific standards in the allotment management planning process. These guidelines apply to native and desirable non-native key plant species as recorded at the end of the growing season. (G) <table><tr><th>Vegetation Component</th><th>Allowable % Utilization</th></tr><tr><td>Grasses & Herbaceous Species (% dry weight)</td><td>35-55%</td></tr><tr><td>Shrubs (% annual leader growth)</td><td>25-35%</td></tr></table>	Vegetation Component	Allowable % Utilization	Grasses & Herbaceous Species (% dry weight)	35-55%	Shrubs (% annual leader growth)	25-35%	4	4	Upland areas appeared to be grazed within standards.
Vegetation Component	Allowable % Utilization									
Grasses & Herbaceous Species (% dry weight)	35-55%									
Shrubs (% annual leader growth)	25-35%									
Grazing Management – Livestock Grazing Permits	Permitees may be allowed motorized access to maintain or develop range improvements assigned in their grazing permits or for other authorized administrative activities. AMPs and AOIs should include direction to comply; travel permits should be issued to authorize this use. (G)	4	4							
Aquatic Influence Zone (AIZ) – General Riparian Area Management	Use herbicides, pesticides, and other toxicants and chemicals only as needed to maintain desired AIZ attributes. (G)	4	4	The area falls under the typical district weed program.						

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Applicable Caribou NF Revised Forest Plan (RFP) Standard and Guidelines

Element	Standards and Guidelines	Implemented	Effective	Notes																																	
AIZ – Grazing Management	<p>Use the AIZ grazing standards below until more site-specific standards are implemented using the Caribou Riparian Grazing Implementation Guide. If current AOIs have more stringent requirements they shall be used however. Generally, the factor most critical for maintaining riparian and stream channel characteristics shall be used. . These guidelines apply to native and desirable non-native key plant species as recorded at the end of the growing season. (S)</p> <table border="1"> <thead> <tr> <th rowspan="2">Parameter</th><th rowspan="2">Location Measured</th><th colspan="3">Condition of Riparian (Lotic) Area</th></tr> <tr> <th>PFC</th><th>Functioning at risk</th><th>Non-Functioning</th></tr> </thead> <tbody> <tr> <td>% Herb. Species Utiliz</td><td>Greenline</td><td>45%</td><td>35%</td><td>30%</td></tr> <tr> <td></td><td>AIZ</td><td>55%</td><td>45%</td><td>35%</td></tr> <tr> <td>% Woody Spp Utiliz.</td><td>-</td><td>45%</td><td>40%</td><td>30%</td></tr> <tr> <td>Stubble Height</td><td>Greenline</td><td>4 in.</td><td>6 in.</td><td>6 in.</td></tr> <tr> <td>% Bank Disturbance</td><td>Cumulative</td><td>30%</td><td>25%</td><td>20%</td></tr> </tbody> </table>	Parameter	Location Measured	Condition of Riparian (Lotic) Area			PFC	Functioning at risk	Non-Functioning	% Herb. Species Utiliz	Greenline	45%	35%	30%		AIZ	55%	45%	35%	% Woody Spp Utiliz.	-	45%	40%	30%	Stubble Height	Greenline	4 in.	6 in.	6 in.	% Bank Disturbance	Cumulative	30%	25%	20%	3	3	<p>Stubble height was measured in Second Meadow and Old Canyon Meadows at 4 inches during the evaluation (2007). Stubble height in Old Canyon Meadow was measured at 14 inches in 2006.</p> <p>These areas are not lotic systems: there is no active channel at Second Meadow and Old Canyon was dry during the evaluation. Although lentic PFC assessments have not been performed, the group agreed that these areas would most likely be functioning at risk.</p> <p>An ID team should review the area and use the Caribou Riparian Grazing Implementation Guide to determine the appropriate desired condition objective(s) and standards to move towards those objectives.</p>
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AIZ – Grazing Management	The most current version of the Caribou Riparian Grazing Implementation Guide (GIG) shall be used for the primary source of direction for grazing in Forest riparian areas and shall be incorporated during allotment management planning. (S)	3	4	PFC assessments and the GIG have not been used to identify the appropriate standards. However, the AOI does contain some riparian standards.																																	
AIZ – Grazing Management	Avoid locating new livestock handling and/or management facilities inside of AIZs. (G)	5	5	No new facilities have been constructed in AIZ.																																	
AIZ – Grazing Management	Where feasible, relocate or close existing livestock handling facilities that will not maintain progress towards desired AIZ attributes. (G)	N/A																																			

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R1/R4 FSH 2509.22, Chapter10 - Soil and Water Conservation Practices

Practice	Objective and Implementation	Implemented	Effective	Notes
17.01 – Range Analysis, Allotment Management Plan, Grazing Permit System, and Permittee Operating Plan	<p>To maintain and protect soil and water resources through sustained forage production and managed multiple use of range forage.</p> <p><u>Implementation:</u></p> <ul style="list-style-type: none"> • Allotment is NEPA sufficient (if yes, give date) and AMP is sufficient (if yes, give date) • Preparation and approval of AMP • Revise AMP as needed • AOI prepared or revised (as needed) annually to adjust for current allotment conditions and trends and to incorporate special instructions • Permittee carries out the plan • Corrective action is taken if permittee does not comply with permit conditions designed to protect soil and water resources. 	4	4	NEPA was completed in 1995. Majority of areas examined look good with upward trends.
17.02 – Controlling Livestock Numbers and Season of Use	<p>To maintain and protect soil and water resources through management of livestock numbers and season of use.</p> <p><u>Implementation:</u></p> <ul style="list-style-type: none"> • Proper stocking rates and season of use specified in the grazing permit. • Annual field checks are made to identify needed adjustments: range readiness evaluations, livestock counts, forage & browse utilization, and periodic assessments of rangelands (soil and veg. trends) • Permit is modified, cancelled, or suspended if needed. 	4	4	Range inspections verified compliance.
17.03 – Controlling Livestock Distribution	<p>To maintain and protect soil and water resources, including riparian areas though controlling livestock distribution.</p> <p><u>Implementation:</u></p> <p>Proper techniques are used to reduce the impact on sensitive or naturally overused areas. Techniques may include:</p> <ul style="list-style-type: none"> • Fence construction and use of seasonal or pasture system management • Water developments in areas that receive little use and closures of water developments when proper use is achieved. • Other Range improvements. • Riding & herding to shift livestock locations • Placing salt or supplements away from water in forage areas with light grazing use to attract livestock • Moving livestock when prescribed utilization levels are reached. • Goats and sheep – open herding, limited trailing, and use of new bed grounds nightly. <p>Direction is incorporated into the AMP and AOI. The AOI reflects current allotment conditions and vegetative trends.</p>	4	4	

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R1/R4 FSH 2509.22, Chapter10 - Soil and Water Conservation Practices

Practice	Objective and Implementation	Implemented	Effective	Notes
17.04 – Rangeland Improvements	<p>To maintain and protect soil and water resources the use of rangeland improvements.</p> <p><u>Implementation:</u></p> <p>Improvements are recognized in the allotment planning process. Improvements are used to improve management and restore or improve forage quality, quantity, or availability. Improvements may include:</p> <ul style="list-style-type: none"> • Rest and/or deferment through rotation grazing, fencing, or lighter grazing use by changing the grazing season, kind, class, or permitted number of livestock. • Stream stabilization projects • Reseeding, fertilization, and/or other non-structural improvements • Water developments • ID teams provide consultation on improvements and they are constructed in manner that protects surface and ground water quality 	4	4	

R4 Soil Management Handbook, FSH 2509.18 – Chapter 2 – Soil Quality Monitoring

Practice	Objective and Implementation	Implemented	Effective	Notes
Detrimental Soil Disturbance ¹	No more than 15% of an activity area should have detrimentally disturbed soil after the completion of all management activities. In other words, at least 85% of an activity area should be in a non-detrimentally disturbed condition.	4	4	
Effective Ground Cover	<p>The minimum effective ground cover, following the cessation of disturbance in an activity area, should be sufficient to prevent detrimental erosion. Detrimental erosion includes erosion rates that cause long-term productivity losses from an activity area or soil losses that are beyond those acceptable for the activity area.</p> <p>Minimum amounts of ground cover necessary to protect a soil from erosion are a function of soil properties, slope gradient and length, and erosivity (precipitation factor).</p>	4	4	

¹ Discuss the proper scale of the activity area (e.g. allotment, pasture, riparian areas). Activity Area is define in the handbooks as “an area impacted by a land management activity, excluding specified transportation facilities, dedicated trails, and mining excavations and dumps. Activity areas include such areas as: harvest units within timber sale areas and prescribed burn areas. Riparian and other environmentally sensitive areas may be monitored and evaluated as individual activity areas within larger management areas. It is recommended to describe the Activity Area for soil resources within planning and project implementation documents.”